SYLLABUS

1. Course title:

Instrumental Pharmaceutical Methods

2. Code:

3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester(s):

1 | 2

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)
	x			
9.1. Lectures	2		Classes:	22.5
9.2. Seminars	0		Individual work:	62.29
9.3. Laboratory / Practice classes	0		In total:	84.79

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Cosmetology

12. Lecturer:

Dr sc. Maida Šljivić Husejnović°°°°°

13. Course aims:

Acquisition of knowledge and skills in the principles and application of the most important instrumental pharmaceutical methods in the analysis of cosmetic products.

14. Learning outcomes:

By the end of the semester/course, successful students who have continuously fulfilled their obligations throughout the instructional period will be equipped to apply the acquired knowledge in the use of selected instrumental analytical methods.

15. Course content:

Familiarization with the syllabus; work instructions
Introduction to instrumental methods of pharmaceutical analysis
Classification of analytical methods
Analytical determination parameters
Calibration and validation
Rheological methods: Rheometry, Viscometry
Optical methods: Turbidimetry and nephelometry, Refractometry, Polarimetry
Separation methods: Chromatographic methods, Extraction methods, Electrophoresis
Spectroscopic analytical methods: Atomic spectrometry, Molecular spectrometry
Electroanalytical methods: Potentiometry, Conductometry, Voltammetry

16. Learning methods:

Teaching methods: Lectures, consultations, independent seminar work.

- **Lectures – Students are required to attend lectures regularly and actively participate in discussions.**
- **Consultations – Through individual or group consultations, students can clarify uncertainties and deepen their acquired knowledge.**
- **Seminar work – Students prepare a seminar paper based on literature research on a given topic and present it orally.**

17. Assessment methods:

Activity – Through attendance at lectures, a student can earn 0–10 points.
Seminar paper – By preparing and defending a seminar paper, a student can earn up to 40 points.
Final exam – Knowledge assessment includes the integration of the entire course content.
The maximum number of points a student can earn on the final exam is 50, and a minimum of 25 points is required to pass the exam.

18. Assessment components:

Student performance is continuously monitored throughout the course and expressed in points.

The final student success, based on all forms of knowledge assessment, is evaluated and graded as follows:

- **10 (A) – 95-100 points: Excellent performance without errors or with negligible errors.**
- **9 (B) – 85-94 points: Above average performance with occasional errors.**
- **8 (C) – 75-84 points: Performance with noticeable errors.**
- **7 (D) – 65-74 points: Generally good performance with significant deficiencies.**
- **6 (E) – 54-64 points: Meets the minimum criteria.**
- **5 (F, FX) – less than 54 points: Does not meet the minimum criteria.**

19. Mandatory reading list:

Lectures Authorized by the Course Lecturer/Course Professor

20. Additional reading list:

Medenica M. i Pejić N. Instrumentalne metode, 2018.

21. Web sources:

22. Applicable from the academic year:

2025/2026

23. Adopted in the Faculty/Academy session: